



LIFEBIZ MANIFESTO: cell, brain, mind; Anesthesia and operation of the world

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Abbreviation:

SO – Self Organization
U – Understanding
C – Consciousness
E – Emotions
K – Knowledge

Brain, mind, self organization laws:

BRAMA – Brain and mind attraction, 1225 ms
BRA – Brand the features, 3.6 ms
AMA – Amass the chunks, 25 ms
MA – Master the associations, 175 ms
BILO – Brain internal language organization
COMET – Compressor, meter
SAVA – Selective audio video association
bC – Brain Consciousness
fbC – Frequency of brain Consciousness = 5.7 cycles per 1000 ms
BET – Brain event train
TISS – Time, information, sign, set

Cell, genetic, self organization laws:

GENIO – Genetic intelligence organization, 1250 nm
BRAG – Brand the features, 3.64 nm
AMAG – Amass the chunks, 25.5 nm
MAG – Master the associations, 178.5 nm
CILO – Cell internal language organization
CEMET – Cell meter
CELA – Cell association
cC – Cell Consciousness
fcC – Frequency of cell Consciousness = 5.6 cycles per 1000 nm
CET – Cell event train
LISS – Link, information, sign, set

Key words: anesthesia, operation, health, cell, DNA code, genetic intelligence organization, gene, gene link, base, LIFEBIZ laws, SOUCEK laws, courtship, mimicry, send and receive windows, brain, mind, life, consciousness. Business, market, bank, money, computer, neural net.

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Abstract

The LIFEBIZ theory and practice follow the natural life processes of intelligence LIFEBIZ is related to the Brain sciences. By adjusting the rate of triggering and the internal time constants, brain generates various brain event trains: Poisson; almost Poisson; uniform distribution; almost periodic. Many event trains are active simultaneously in the brain and mind tissue. The time intervals of trains cover a broad range from 0 to 1225 ms, with the peaks in 3,6; 25; 175 and 1225 ms. These event trains support the links between the brain agents. The links and the agents support the brain functions in the Self Organization SO of Understanding U, Consciousness C, Emotions E and Knowledge K. This is a nested, fractal, dynamic, fuzzy loop of the trains and signs. The brain signs are the pieces of mosaic used to build the mind. The same concept is used to build the LIFEBIZ. By treating biological, economical and technological systems alike, LIFEBIZ both advances and opens new job profiles and business. To be attractive for the market, consumer goods and industrial hardware of all kinds must be wrapped into LIFEBIZ package which includes: natural interface to the users based on non restrictive dialogue, speech and image; features of adaptability, learning, sensing the environment; human like behaviour offering the users a new sensation of mind and body, new experiences happenings and pleasures. These require qualities and status associations. The same equations and laws explain the Cell, Brain, Mind as well as the life. Road to the bright LIFEBIZ future is open.

INTRODUCTION

Commercialisation of LIFEBIZ products, networks, technologies and concurrent systems and intelligent real time systems will grow rapidly, including: new products, applications, chips, systems, training, consulting, and research that focuses on neural, concurrent or intelligent systems. Government funding organizations should support the biologically based computing. Investments, capital from banks and venture capital should flow into the LIFEBIZ. **LIFEBIZ** grows from the following research seeds: brain, biology, **Bio**; computer, software, **Soft**. The goal is: better life and business in accordance with the nature. See (1) with a long list of references, with minute details.

LIFEBIZ MANIFESTO

This is a declaration, aim, invitation and explanation, how to develop beautiful life in accordance with the laws of nature. This is a summary, a feasibility study. Civilization and nature are living together;

sometimes in cooperation; another time in fight. Civilization proved to be a winner in some periods and locations. Yet the ultimate winner has been, and it will be, the nature. LIFEbiz follows the natural life laws, with the aim: more of cooperation; less of fight. This is possible only if civilization understands the laws of nature. It is relatively easy to understand the external, visible laws of nature. It is difficult to discover and to understand the internal, invisible laws of the intelligent nature. These laws strictly follow the concrete experimental data, computer models and the new theory. They cover the cell, brain, mind and sex; animal and human life. LIFEbiz MANIFESTO grows gradually through the time, following the cell and brain laws.

1. The nucleus of each cell keeps the genetic code. In genetic code a gene keeps the information necessary to produce one single protein. There are about 100.000 genes; each composed of 20 coding words (amino acids); each composed of 3 out of 4 coding elements (A, C, G, U). 2. The assemblage of Genetic Signs is a crop of the signs developed through evolution and stored in DNA. Formation of genetic signs goes through the cycle of variation, selection and reduplication of selected. New signs are continually cropping up, but as there is a DNA limit, many signs gradually become extinct. In short, favoured signs survive the natural selection. 3. The assemblage of Learned Signs is a crop of personal and of learned experience stored in the long term memory: in neuron – synapse connections. 4. Finally in the brain, the genetic and learned signs are stored in the dispersed neural networks: in 25 billion of neurons; some of which with thousands of synapses; hence with many thousands of billions interconnections; with large associative neural networks. Dendritic growth and spine production of the large, layer III, pyramidal, neurons corresponds with the intensive cognitive development during early childhood. They play a dominant role in preserving cognitive functions. 5. The theory explains and proves the existence of the BET and SIGNS, from the level of the neurons – synapses, all the way to the level of the evoked potentials and of the behaviour. 6. Psychological experiments suggest the information flow of trillions bits per second for human sensory input, but only about 10 bits per second for the input into short term memory. It is clear that enormous data compression, clustering, quantizing takes place. 7. Brain mind nested, fractal, TISS clusters are capable of solving problems of seemingly arbitrary complexity. Yet the learning procedures follow simple principle: brain event trains, BET and SO laws. 8. The Brain and Mind Attractions, BRAMA, merge and compress the strong desires. The burning, passionate, unrestrained, excessive desires come from the concurrent, nested, fractal, selfish, TISS agents and units. 9. The brain and mind follow two different avenues: logical/programming, L/P; and transformation/mapping, T/M. L/P is based upon algorithms, procedures and rules. T/M is based on learning and on building associations. These two types of information processing are conceptually compatible. In other words, it is becoming clear that it may often be impossible to sat-

isfactorily describe the operation of transformation in terms of an algorithm, and vice versa. For example, brain action, based on T/M, may provide useful solution to important application area, without allowing us to discover the fundamental ideas used in the solution. The solution is based on the SO laws. 10. The mind is a traffic of the electrochemical brain event trains, BET in TISS. 11. The quantity and complexity of TISS clusters and SO laws strongly distinguishes the human brain, language, consciousness and abstraction, from the animal brains. The quantity is in proportion with the number of nerve cells: in human brain, billions of cells, complex UCEK functions; in octopus brain, 520 millions of cells, simple UCEK functions; in insect brain, over 1 million of cells, elementary UCEK functions. In each brain the UCEK functions are in relation with its environment and life complexity. 12. There is an enormous degree of the modularized, nested and repetitive human TISS clusters. They follow the SO laws and the signs BILO, COMET, SAVA. The signs are present in the cerebral cortex, cerebellum, brain stem and spinal cord: in the pyramidal, stellate, Martinotti and granule cells. Within and between the neural networks, the signs participate in the internal, multilevel, complex, pattern recognition and generalization. The signs merge: time, information and sets; continuous and discrete; selection of specific and overlap; rules and associations. 13. Multilevel, parallel and sequential loops perform the pattern recognition, associative reasoning, speech and thinking. 14. The brain signs are the pieces of mosaic used to build the mind. 15. The brain networks are using the assembled signs to cooperate and to fight, until the winner takes all. Again and again. Here and there all over the brain. 16. Large parts of the neural interconnections within the human neo cortex are related to the complex associations and to the language. The unique human language grows out of the internal signs BILO, COMET, SAVA. 17. The word finding increases the activity in dorso lateral prefrontal cortex and decreases the activity in posterior cortical regions. This is because the prefrontal TISS units act to gate, and select the posterior TISS units.

18. **The State of Mind.** SO of UCEK creates the State of Mind. There is no central executive. It is SO that leads the tracks of thoughts. SO explains the active forms of encoding and retrieval, which depend on the lateral frontal cortex; and the more passive forms of encoding and retrieval, which result when incoming or recalled stimuli automatically trigger stored representation. High or low levels of UCEK states select the mind tracks in a fraction of a second. The mixture of high and low levels slows the decision process.

19. Time Event Train TET

Brain Event Train, BET. Equation:

$$g(x) = \lambda \tau_2 \exp\{-\lambda \tau_2 [\ln 1 - \ln(1-x)]/a\} / a (1-x)$$

Cell Event Train, CET. Equation is the same with the specific cell parameters.

Life Event Train, **LET**. Equation is the same with the specific life parameters.

The same equations and laws explain the Cell, Brain, Mind as well as the life. Road to the bright LIFEbiz future is open.

20. Quantum pile-up, QPU, explains the quantum transmitter release: pile up of discrete attributes (vehicles) generates the continuous amplitude: QPU is a discrete to continuous; molecule to process link. QPU equation:

$$f(s) = \frac{e^{-m}}{0!} \cdot g_0(s) + \frac{e^{-m}}{1!} \cdot m^1 \cdot g_1(s) + \dots + \frac{e^{-m}}{k!} \cdot m^k \cdot g_k(s)$$

The same QPU law and equation explain the cell, brain, mind and life; yet with the specific cell, brain, mind and life parameters. In the **cell** QPU explains the End Plate potential amplitude distribution. In the **brain** QPU explains the quantum mind, built from the random brain attribute processes. In the **life** QPU explains the collective decision, built from the human and business attribute decision pieces.

21. Decision, Action: Holistic Self Organisation SO of UCEK. Certainty grows from the unconscious decision, to the conscious will, to the illusion and action:

$$T_{dec} = 2 \text{ MA} - \text{AMA} = 341 \text{ ms}$$

$$T_{will} = \text{MA} + \text{AMA} = 204 \text{ ms}$$

$$T_{ill} = 3\text{MA} + 3\text{BRA} = 86\text{ms}$$

Until now each law presents a specific bio electrical, bio chemical process: with the equation, curve, data. Each law is supported by the animal and human experimental data and by the theoretical model. Data and models are in excellent agreement. Each law is related to the process, rather than to the status. It is a piece. Complex, massively parallel actions of various pieces, form the life intelligence functions.

22. LIFE follows the cell, brain, mind laws:

- from discrete bio event trains; to continuous time; **TET**
- from discrete attributes, molecules, quantum; to continuous **QPU** amplitude
- from BRA, AMA, MA to the brain mind attraction **BRAMA**
- life grows through the merger of the chemical logic and the Bio processes, laws.

LIFE = chemical logic + bio processes: cell, brain mind laws.

These explain the memory and learning: Self Organization of Understanding, Consciousness, Emotions and Knowledge.

23. LIFEbiz merges the life and business; following the above life laws.

FUTURE = LIFEbiz

The experimental findings and the evoked potentials indicate that the verbal chaos is structured, nested and

synchronized. This arrangement is regulated both in the time and in the space. Behind the verbal chaos, there is the BRAMA fractal protocol and the Quantum Mind barrier. REASON is based on the Continuous, Quantizing, Discrete process. The Elements or pieces of Consciousness CON, explain the innate and learned **Bio** assemblage. They can be used as a guide to build the CON Software **Soft**:

Selective courting. The CON system gradually narrows the windows. The goal is to detect/select the right partner and to avoid the risk of courting the wrong partner. Bio: brain windows before mating. Soft: low risk credit scoring. **Mimicry.** The CON system gradually widens the windows. The goal is to attract/select as many partners as possible. Bio: brain windows for feeding. Soft: help desk for marketing. **Context Switching.** Sudden change in CON behaviour, based on the past history, recalled experience and on environmental conditions. Bio: brain windows after mating. Soft: EDI-switch for adaptive purchasing. **Aggression.** One subsystem tends to take control of the whole CON system. Bio: time coding in insect chirping. Soft: competition networks. **Alternation.** Two [or several] subsystems are taking control of the CON system in alternation. Bio: time coding in insects; leader/follower chirping. Soft: travelling salesman, genetic programming. **Solo.** One subsystem is in control of the whole CON system. Bio: time coding in insects; leader chirping. Soft: winner takes all. **Transmitting.** Exchange of conscious messages among subsystems. Bio: quantum transmitter release on neural terminals. Soft: conscious message packages.

Millions of the **Bio to Soft** pieces will be developed through years. They will be used to build the new, beautiful life and complex, massively parallel business: **Innovative, ground breaking, revolutionary LIFEbiz.**

Anesthesia and operation of the world. Environment factors are key determinants of the human health. Exposure to pollutants and chemicals could elevate the risk of cardiovascular and other diseases. Lead poison enters human body from the old water pipes, canned beverages, cars. Dangerous fine particles enter from the air; etc. Cut the world in order to remove and repair a diseased or damaged parts. Transplant SOUCEK LAWS from the Cell, Brain, Mind, to the new LIFEbiz: »first, time is life; then, time is money«. New York publisher, Wiley Inc., is spreading the Soucek LIFEbiz books around the world, calling them »innovative, ground breaking, revolutionary«. Learning by working, new feasibility studies and applications asks for cooperation; lectures; seminars; constant consulting; projects; right now, short and long terms. An original CD offers the details, theory, experiments, curves, equations, international experience, bio to soft pieces. Some pieces have been already developed in the evergreen books and laws listed in Appendix. Also the related activities and the concrete International projects are described in the Appendix.

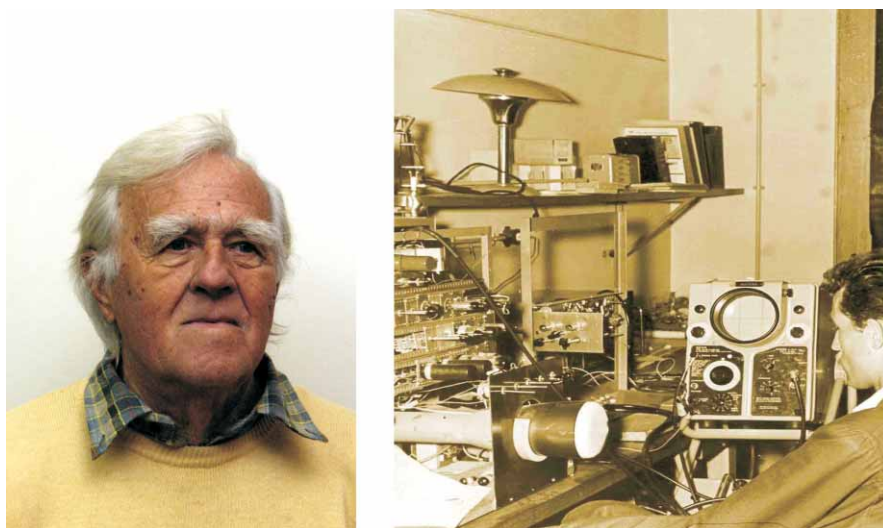


Figure 1. 1959 Souček is building the first digital computer in Croatia.

APPENDIX

BACKGROUND: LIFEbiz strongly merges the brain and the computer research. Souček has developed the LIFEbiz seeds through the following activities

Founder of THE COMPUTER SCIENCE AND CYBERNETICS in Croatia

From 1955–1959 Souček has designed the first digital computer in Croatia, and has published the first computer paper: 256 channel analyzer, memory, logic, programs, *Elektrotehnika* 4, 1959. He founded the first laboratory of Cybernetics. He extended his computer into an on-line, real-time, associative analyzer. This was the brain-like computer, first in the world; it has increased the neural and nuclear spectroscopy by a factor of 1000 times. Souček has been an invited speaker on the Annual National Conference in Washington 1965, and on many other International conferences. Scientists from USA, Europe, China, Russia and Japan have come to Souček for specialization. Souček founded the first University course »Digital Computers«; He founded in 1966 the first Electronic Scientific Computer Center ERCE, and he participated in 1973 in extending it to the University Computer Center SRCE. He founded in 1969 the International Conference DATA PROCESSING, then 3-day MICRO-Seminars; and has participated in extending his MICRO Seminar to MIPRO 1978.

Founder of the International IRIS Group and Sixth Generation Projects: BRAIN, COMPUTER

Souček is the author and editor of ten books presenting the Sixth Generation Projects results; published in New York and translated into Croatian, Japanese and

Russian in over 100.000 copies: Minicomputers [first choice award 1973]; Microprocessors [first choice award 1976]; Computers in Neurobiology 1976; Neural and Massively Parallel Computers 1988; Neural and Concurrent Real-time Systems 1989; Dynamic, Genetic and Chaotic Programming 1992; Fuzzy, Holographic and Parallel Intelligence 1992... He is the author of a book in Split: Quantum Mind Networks 1997.

Discoverer of SOUČEK LAWS: CELL, BRAIN, MIND

Souček has performed the research, experiments and models: from the end-plate potential quantum transmitter release processes, to the complex neural event trains. **He has discovered the new Cell, Brain, Mind laws:** Brain Internal Language Organization BILO; Brain Event Trains BET; Brain Tissue TISS; Brain Compressor and Meter COMET; Brain Mind Attractions BRAMA; Brain Windows; Brain Genetic Intelligence Organization GENIO; Explosion of Self Organization SO BANG. Quantum Pile Up QPU. Note: bio quantum is not related to the sub atomic quantum.

Acknowledgement: I have spent fifty years working out the Self Organization of life intelligence: in Institute Ruđer Bošković; U of Zagreb; Brookhaven National Laboratory N.Y.; SUNY; U of AZ. I acknowledge the stimulating atmosphere and excellent working conditions. I am learning a lot from my children Branko, Amalia and Marina. BRA, AMA, MA = BRAMA Law.

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